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(54) **SHEET RETAINING DEVICES SUCH AS BINDERS HAVING POCKETS WITH CORNER LOCKS**

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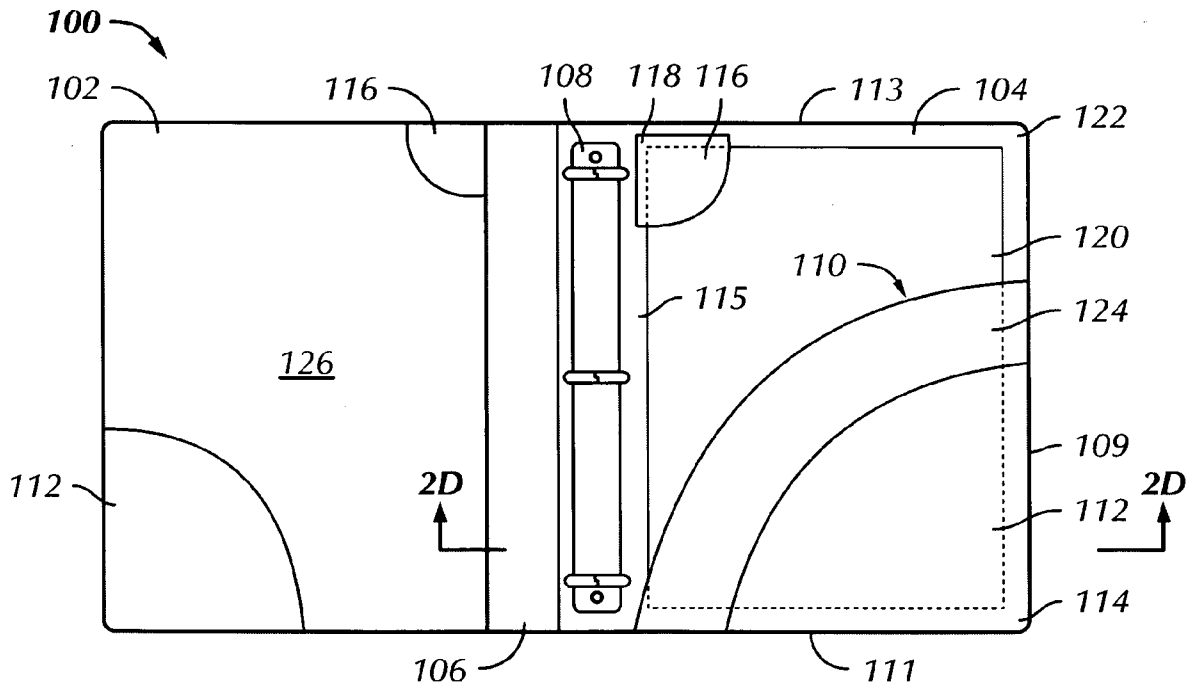
(52) **U.S. Cl.** **281/21.1**

(57) **ABSTRACT**

A sheet retaining device such as a folder or a binder that incorporates a corner lock for preventing papers from dislodging therefrom. The sheet retaining device has a front cover and a back cover. Each of the covers has a top edge, a bottom edge, an outer edge, and an inner edge. A first primary flap is connected to the back cover along the outer edge and the bottom edge thereof to form a pocket that is adapted to receive one or more pieces of sheet material. A secondary flap is connected to the back cover along the inner edge and the top edge thereof to form a corner lock adapted to retain corner of sheet material retained in the sleeves. Accordingly, when a piece of sheet material is retained in the pocket, the secondary flap acts as a corner lock on the free corner of the sheet material, tending to retain this free corner and the sheet material in the pocket, even if the sheet retaining device is turned upside down or sideways.



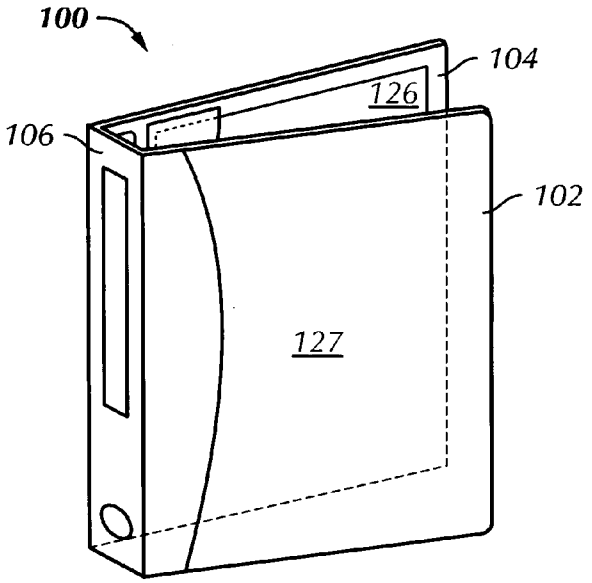
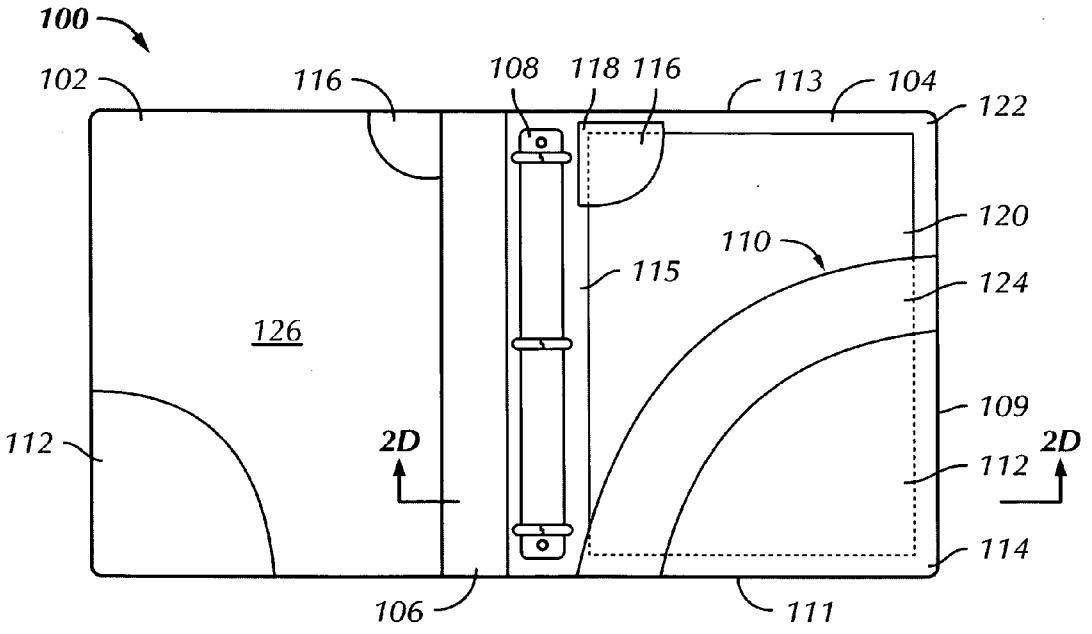

100
104
126
106
102
127

FIG. 1


100
102
116
108
118
116
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122
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110
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124
126
109
112
2D
2D
112
114
106
111

FIG. 2

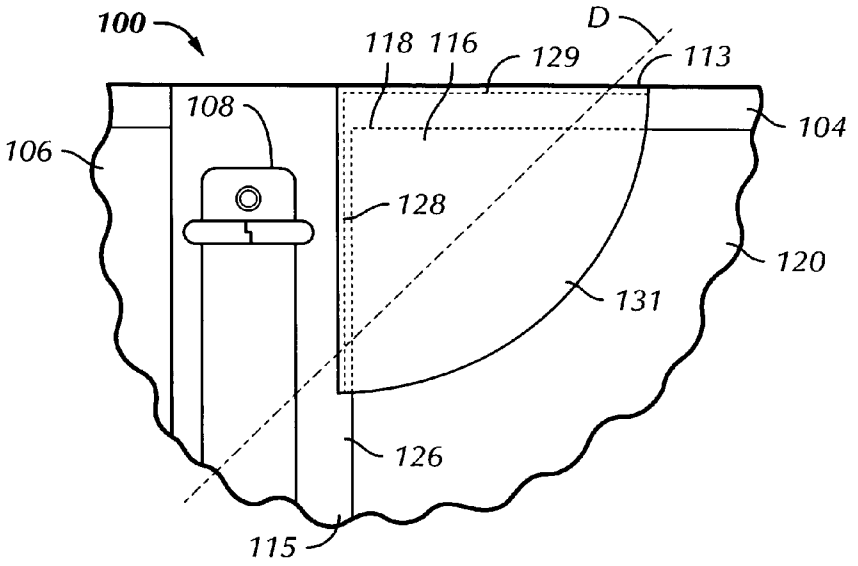

FIG. 2A

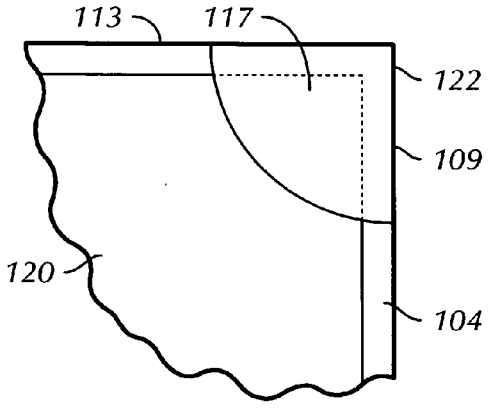

FIG. 2B

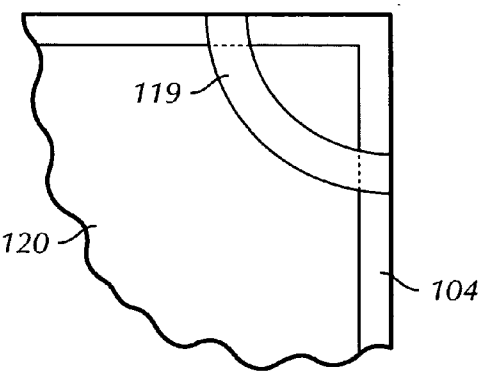

FIG. 2C

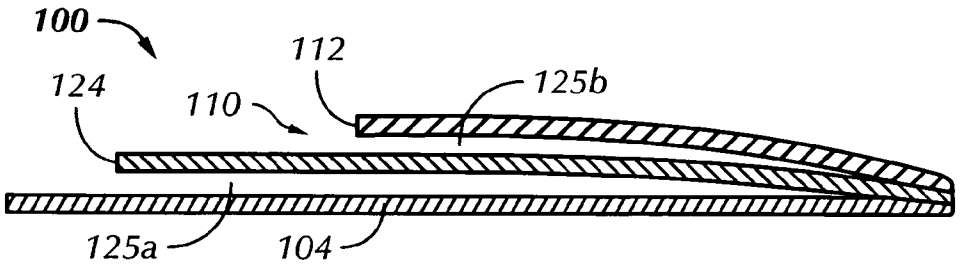
100
112
124
110
125b
125a
104

FIG. 2D

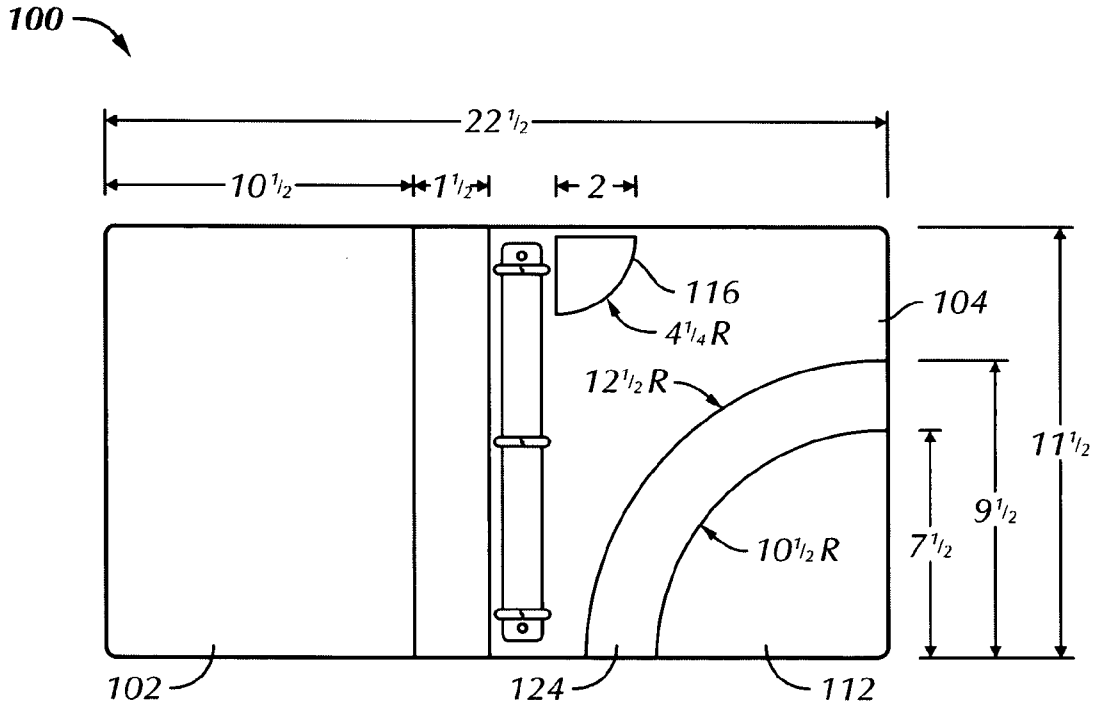
100
22 1/2
10 1/2
1 1/2
2
116
4 1/4 R
104
12 1/2 R
11 1/2
9 1/2
7 1/2
10 1/2 R
102
124
112

FIG. 3

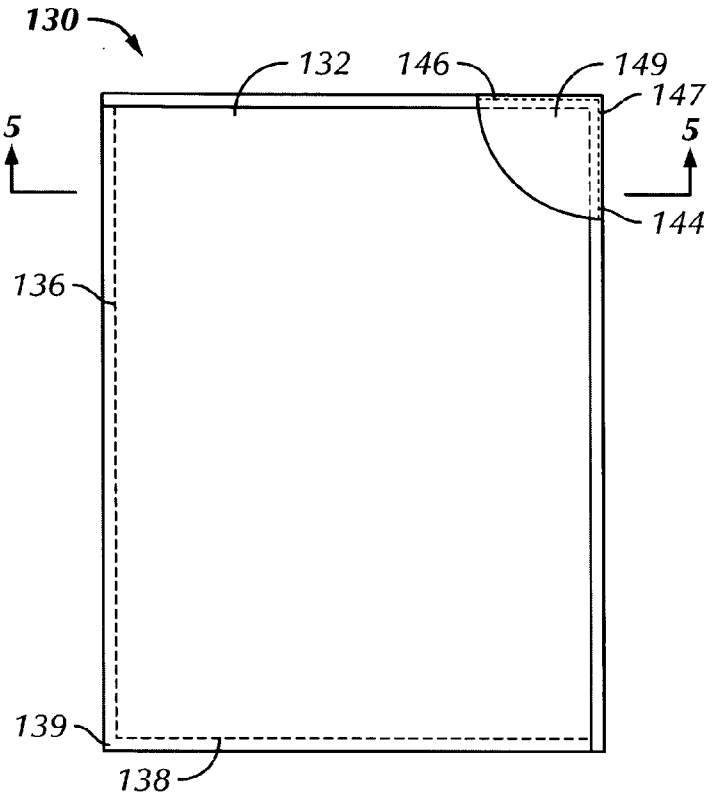
130
132
146
149
147
5
5
144
136
139
138

FIG. 4

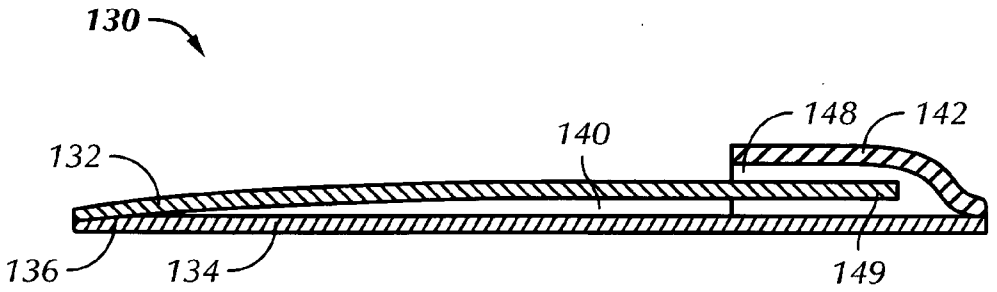
130
148
142
140
132
136
134
149

FIG. 5

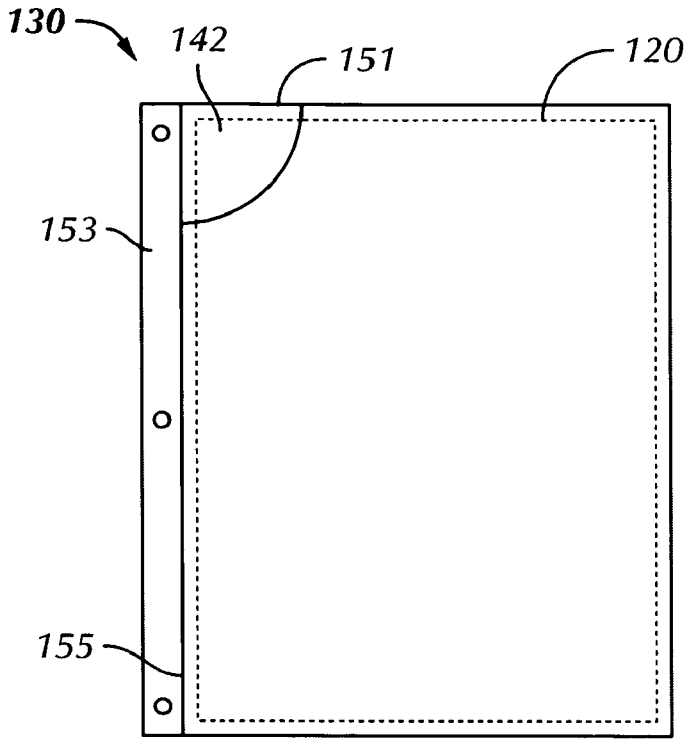

FIG. 6

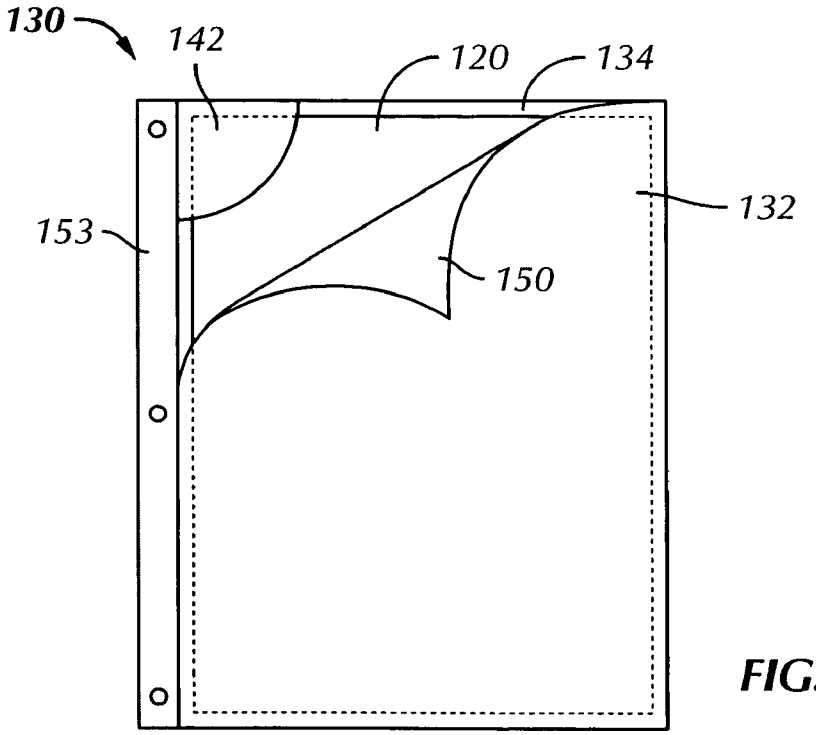

FIG. 7

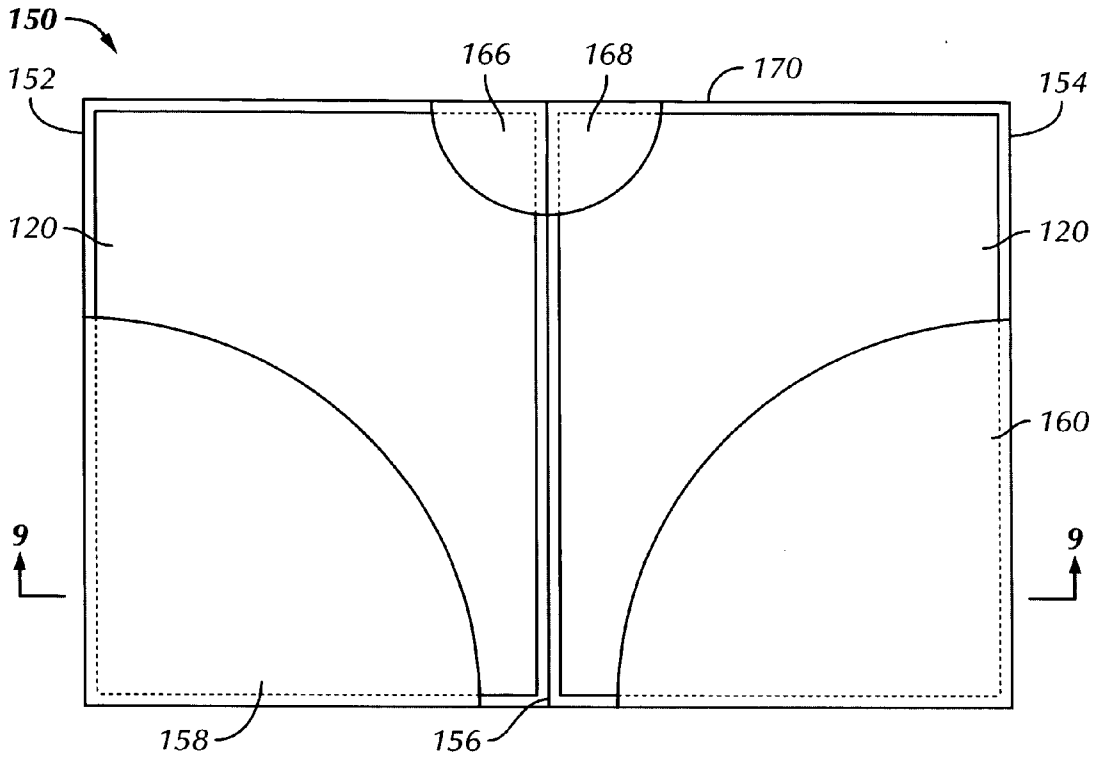
150
152
166
168
170
154
120
120
160
9
9
158
156

FIG. 8

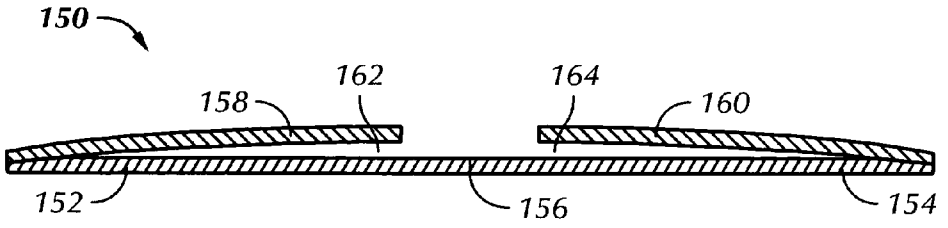
150
158
162
164
160
152
156
154

FIG. 9

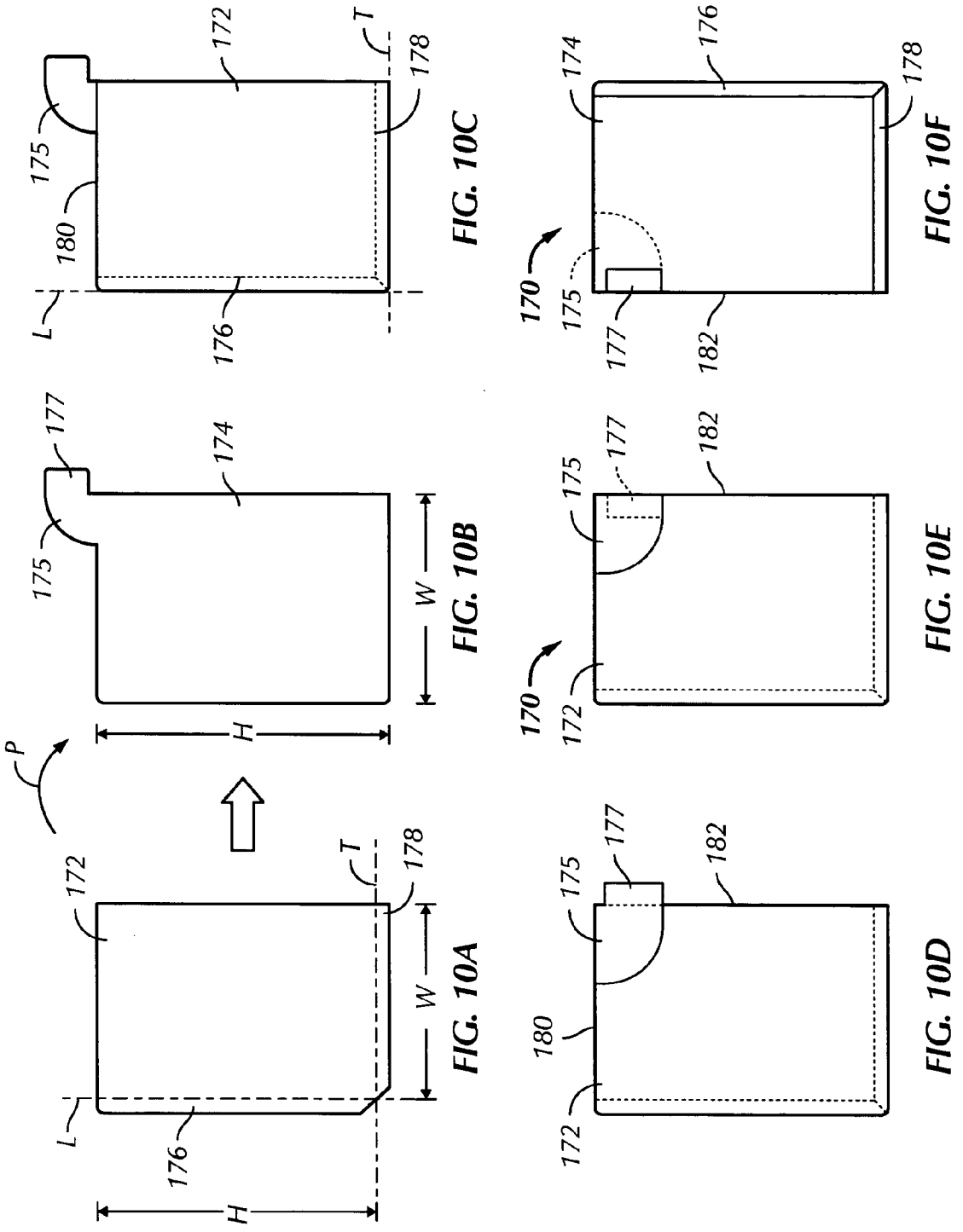

FIG. 10A

FIG. 10B

FIG. 10C

FIG. 10D

FIG. 10E

FIG. 10F

SHEET RETAINING DEVICES SUCH AS BINDERS HAVING POCKETS WITH CORNER LOCKS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims priority on U.S. Provisional Application for Patent Ser. No. 60/584,633 filed Jun. 30, 2004, the entire disclosure of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] The invention relates to binders and other sheet retaining devices such as sheet protectors with pockets for holding sheet material such as paper documents or the like.

[0003] Conventional sheet retaining devices such as sheet protectors, binders, and folders typically include a sleeve or pocket in which one or more pieces of sheet material may be received. These pockets or sleeves include a flap that can be folded back to insert the piece of sheet material. As shown in U.S. Pat. No. 6,874,968, one conventional document holder does have two triangular pockets but no overlying sheet to protect the face of the document. The pockets are next to each other, at the opposite ends of one edge of the document. Published U.S. Patent Application No. 2004/0066031 A1 shows a cover with each inside surface having a pocket underneath a corner tab. While this cover does hold a sheet, the direction of insertion or removal of the document is constrained by the rectangular pocket. One of the drawbacks of such conventional devices may be that if the device is turned upside down or sideways, there is a risk that the sheet material can dislodge from the pocket. Alternatively, the direction of insertion or removal of the document may be constrained by the pocket configuration.

[0004] Accordingly, there is a continued desire for sheet retaining devices that prevent the inadvertent dislodging of sheet material from therein or that facilitate the insertion of a sheet from more than one direction. The present invention satisfies one or more of these needs.

SUMMARY OF THE INVENTION

[0005] The invention relates to binders and other sheet retaining devices such as sheet protectors with pockets for holding sheet material such as paper documents or the like.

[0006] According to one aspect of the invention, and by way of example only, a sheet retaining device such as a folder or a binder includes a front cover and a back cover. Each of the covers has a top edge, a bottom edge, an outer edge, and an inner edge. A first primary flap is connected to the back cover along the outer edge and the bottom edge thereof to form a pocket that is adapted to receive one or more pieces of sheet material. A secondary flap is connected to the back cover along the inner edge and the top edge thereof to form a corner lock that is adapted to retain corner of sheet material retained in the sleeves. Accordingly, when a piece of sheet material is retained in the pocket, the secondary flap acts as a "corner lock" on the free corner of the sheet material, retaining this free corner and retaining the sheet material in the pocket, even if the sheet retaining device is turned upside down or sideways.

[0007] According to another aspect of the invention, a second primary flap may be connected to the back cover along the outer edge and the bottom edge and positioned between the first primary flap and the back cover to form a pair of sleeves each adapted to retain a piece of sheet material. Accordingly, each of the sleeves may retain sheet material with the free corners of the sheet material being retained by the secondary flap.

[0008] In binder embodiments, the sheet retaining device may include a spine disposed between the covers, and a binding mechanism may be disposed at or near the spine. The principles of the sheet retaining device are also applicable to folders and other similar stationery products.

[0009] Other features and advantages of the present invention will become apparent to those skilled in the art from a consideration of the following detailed description taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0010] **FIG. 1** is a perspective view of a binder according to one of the embodiments;

[0011] **FIG. 2** is a plan view of the inside of the binder;

[0012] **FIG. 2A** is an enlarged fragmentary plan view of a secondary corner lock of a sheet retaining device;

[0013] **FIG. 2B** is an enlarged fragmentary plan view of a secondary corner lock of a sheet retaining device;

[0014] **FIG. 2C** is an enlarged fragmentary plan view of an alternative secondary corner lock of a sheet retaining device;

[0015] **FIG. 2D** is a cross-sectional view taken along line 2D-2D of **FIG. 2**;

[0016] **FIG. 3** is a detailed plan view of an inside of a binder according to a specific embodiment;

[0017] **FIG. 4** illustrates a sheet protector with a corner lock;

[0018] **FIG. 5** is a cross-sectional view taken along line 5-5 of **FIG. 4**;

[0019] **FIG. 6** is a plan view of another sheet protector with a corner lock;

[0020] **FIG. 7** is a plan view of the sheet protector of **FIG. 6** with a cover sheet folded away;

[0021] **FIG. 8** is a plan view of a folder with a pair of corner locks;

[0022] **FIG. 9** is a cross-sectional view taken along line 9-9 of **FIG. 8**; and

[0023] **FIGS. 10A** to **10F** illustrate methodology for manufacturing a sheet retaining device according to a number of embodiments.

DETAILED DESCRIPTION OF THE INVENTION

[0024] Referring to the drawings, a sheet retaining device such as a binder **100** is illustrated in **FIGS. 1 and 2**. According to a number of embodiments, the binder **100** (for example, a ring binder) may include front and back covers **102** and **104** and a spine **106**. A binding mechanism **108** may be disposed on or near the spine **106**. For example, in the embodiment shown, the binding mechanism **108** is attached to the back cover **104** adjacent to the spine **106**. According to some of the embodiments, either one or both of the covers **102** and **104** may include a pocket **110**.

[0025] The pocket **110** may include a primary flap **112** configured to retain a sheet of material such as paper. As shown, the flap **112** may be connected to the cover **104** along adjacent edges of the cover **104** (i.e., an outer edge **109** and a bottom edge **111**) meeting at a corner **114**. The pocket **110** may also include a secondary flap **116** disposed at a corner **118** that is diagonal to the primary corner **114**. The secondary flap **116** may extend a distance along adjacent edges of the cover **104** (i.e., a top edge **113** and an inside edge **115**). The flaps **112** and **116** may be welded, glued, or otherwise attached, either continuously or discontinuously, to the cover **104** according to known techniques in the art.

[0026] Accordingly, when a piece of sheet material **120** is received in the pocket **110**, the secondary flap **116** serves as a corner lock for a free corner of the sheet of material **120** as illustrated in **FIG. 2A**. By retaining the free corner, the secondary flap **116** prevents the sheet material from dislodging from the pocket **110** even if the folder **100** were positioned upside down or sideways.

[0027] The binder **100** or the pocket **110** thereof may include a tertiary flap **117** as shown in **FIG. 2B** disposed at a third corner **122** of the cover **104**. For the purposes of this description, the secondary flap **116** and the tertiary flap **117** may be respectively referred to as a "primary corner lock" and a "secondary corner lock."

[0028] As shown in **FIG. 2C**, any of the flaps may be configured as a strip **119** extending substantially between adjacent orthogonal sides of the binder **100**. The strip **119** functions in substantially the same manner as the flaps in that a free corner of a piece of paper **120** may be retained thereby. In addition to the secondary flaps **116** and **117**, the primary flap **112** may also be configured as a strip in any number of embodiments.

[0029] In addition, the pocket **110** may include a second primary flap **124** that may be similarly configured as the first primary flap **112** except being larger in size, as shown in **FIG. 2D**. The second primary flap **124** may also be connected to the back cover **104** along the outer and bottom edges **109** and **111**, with the second primary flap **124** being nested or sandwiched between the back cover **104** and the first primary flap **112**. Accordingly, two sleeves **125***a* and **125***b* may be defined by the two primary flaps **112** and **124**, with the secondary flap or corner lock **116** retaining the free corner of sheet material retained in the sleeves **125**.

[0030] As shown in the example of a binder **100** in **FIG. 3**, the first primary flap **112** may extend about 7 inches or so along the sides of the cover **104**; the second primary flap **124** about 9 inches; and the secondary flap or corner lock **116** about 2 inches along its respective sides of the cover **104**. The dimensions are shown in **FIG. 3** as an example of a particular commercial embodiment only and are not intended to be limiting in any way.

[0031] With reference to **FIGS. 1 and 2**A, each of the covers **102** and **104** may be described as having an internal surface **126** and an external surface **127**. Any one or all of the flaps **112, 116, 124** may be in the form of sheet material that is welded to either of the surfaces **126, 127** of the covers **102, 104**. For example, as particularly shown in **FIG. 2A**, the secondary flap **116** may be welded along weld lines **128** and **129** to the internal surface **126** of the back cover **104**. According to embodiments as represented in **FIG. 2**, a primary flap **112** and a secondary flap **116** may also be attached, connected, or disposed on the internal surface **126** of the front cover **102** as well.

[0032] The first and second primary flaps **112** and **124** may have any type of configuration, for example, rectilinear or curvilinear, such as the arcuate configuration shown in **FIG. 2**. In the embodiment shown in **FIG. 2A**, the secondary flap **116** has a curvilinear configuration, although any configuration may be implemented. In some of the embodiments, at least a portion **131** of the flap **116** may extends outwardly from the corner **118** beyond a diagonal line indicated by phantom line D extending between the ends of the weld lines **128** and **129**. This extended portion **131** may be lifted up to facilitate the insertion of sheet material under the flap **116**.

[0033] Referring to **FIGS. 4 and 5**, a sheet protector **130** includes a front sheet **132** and a back sheet **134** connected together along welds **136** and **138** along two adjacent orthogonal sides meeting at a first corner **139** to define a large pocket **140** for receiving sheet material. In a number of embodiments, the sheet protector **130** may include a flap **142** connected to the back sheet **134** along welds **144** and **146** along two adjacent orthogonal sides meeting at a second corner **147** to define a small pocket **148**, with the second corner **147** being diagonal from the first corner **139**. A free corner **149** of the front sheet **132** that is diagonal from the first corner **139** may then be received within the small pocket **148** and retained by the flap **142**. Accordingly, the flap **142** may serve as a cover lock for the cover sheet **132** and any sheet material within the large pocket **140**.

[0034] In an alternate embodiment, the welds **144** and **146** do not have to meet at the corner **147**, leaving an opening at the corner **147** of the small pocket **148**. In a further embodiment, the flap **142** does not include a portion that meets the corner **147**, essentially forming a strip or strap with welds at **144** and **146** analogous to the strip **119** of **FIG. 2C**.

[0035] **FIGS. 6 and 7** illustrate another embodiment of a sheet protector **130**. In this embodiment, the flap **142** may be disposed along a top edge **151** and a margin **153** defined along a side edge **155** of the sheets **132** and **134**. Accordingly, when the front sheet **132** is disengaged from the flap **142** and folded back as shown in **FIG. 7**, a piece of sheet material **120** may still be retained by the flap or corner lock **142**. As an alternative to welds, the sheets **132** and **134** may be formed by folding a larger sheet of material such that the sheets **132** and **134** are integral along one edge.

[0036] **FIGS. 8 and 9** illustrate a number of embodiments of a folder **150**. The folder **150** includes a front cover **152** and a back cover **154** with a fold or hinge line **156** defined therebetween. Each of the covers **152** and **154** may include a primary flap **158** and **160**, respectively, with each flap respectively defining a pocket **162** and **164**. Accordingly, each of the pockets **162** and **164** may retain one or more pieces of sheet material **120**. In addition, each of the covers **152** and **154** may include a secondary flap **166** and **168**, respectively, attached at or near the fold line **156** along a top edge **170** of the folder **150**. The secondary flaps **166** and **168** function as corner locks for the sheet material **120**. Additional corner locks may be provided analogous to that shown in **FIG. 2B**.

[0037] In view of the embodiments shown and described herein, the binder **100**, the sheet protector **130**, and the folder **150** may be generally referred to as a sheet retaining device. In any of the embodiments, the flaps and front sheets may include clear or transparent material so that the retained sheet material may be visible when retained in the pocket or sleeve. Alternatively, the flaps may include colored material for other aesthetic purposes.

[0038] Methodology for manufacturing a sheet protector **170** according to some of the embodiments is illustrated in

FIGS. 10A to **10**F. As shown in **FIGS. 10A and 10B**, a front sheet **172** and a back sheet **174** may be cut from a suitable sheet material, such as paper or polypropylene. The back sheet **174** has an integral or unitary flap element **175** with a tab **177**.

[**0039**] The back sheet **174** has a width W and a height H that are less than the overall dimensions of the front sheet **172** such that the front sheet **172** has a longitudinal margin **176** and a transverse margin **178** defined along a longitudinal fold line L and a transverse fold line T, respectively. Accordingly, when the front sheet **172** is positioned against the back sheet **174** as shown by arrow P, the margins **176** and **178** may be folded about the fold lines L and T, respectively, to wrap around edges of the back sheet **174**, as shown in **FIG. 10C**. The margins **176** and **178** may then be attached to the back sheet **174**, for example, by spot welding.

[**0040**] The flap element **175** may then be folded over a top edge **180** of the front sheet **172** as shown in **FIG. 10D**, and the tab **177** of the flap element **175** may then be folded over a side edge **182** to abut the back sheet **174** as shown in **FIGS. 10E and 10F**. The tab **177** may then be attached to the back sheet **174**, for example, by spot welding.

[**0041**] Those skilled in the art will understand that the preceding embodiments of the present invention provide the foundation for numerous alternatives and modifications thereto. These other modifications are also within the scope of the present invention. Accordingly, the present invention is not limited to that precisely as shown and described in the present invention.

What is claimed is:

1. A binder comprising:

a pair of covers each having a top edge, a bottom edge, an outer edge, and an inner edge;

a first primary flap connected to one of the covers only along two intersecting edges thereof to form a pocket that is adapted to retain a piece of sheet material; and

an opposing secondary flap connected to the same cover as the primary flap along the other two intersecting edges thereof and is adapted to accept a corner of a piece of sheet material located in the pocket.

2. The binder of claim 1 further comprising a second primary flap connected along the same two intersecting edges of the first primary flap, with the second primary flap being positioned between the cover and the other primary flap, thereby defining a pair of pockets each adapted to receive a piece of sheet material.

3. The binder of claim 2 wherein the second primary flap is larger in size than the first primary flap.

4. The binder of claim 3 wherein the primary flaps are curvilinear in configuration.

5. The binder of claim 1 further comprising a tertiary flap disposed at along another two intersecting edges of the same cover to form a pocket that is adapted to accept a corner of a piece of sheet material retained in the pocket.

6. The binder of claim 1 further comprising a spine disposed between the covers and a binding mechanism disposed at or near the spine.

7. The binder of claim 1 wherein the primary flap includes transparent material.

8. The binder of claim 1 wherein:

each of the covers has an internal surface and an external surface;

the primary flap is connected to one of the covers only along the outer edge and the bottom edge thereof to form the pocket that is adapted to retain a piece of sheet material; and

the secondary flap is connected to the same cover as the primary flap along the inner edge and the top edge thereof.

9. The binder of claim 8 wherein the primary flap and the secondary flap are located on the internal surface of one of the covers.

10. The binder of claim 1 further comprising another primary flap and another secondary flap located on the other cover of the binder.

11. The binder of claim 1 wherein the secondary flap is configured as a strip extending substantially between adjacent orthogonal edges of the cover.

12. The binder of claim 1 wherein the secondary flap is configured as a strip extending substantially between adjacent orthogonal edges of the cover.

13. A sheet retaining device comprising:

a front cover and a back cover, each of the covers having a top edge, a bottom edge, an outer edge, and an inner edge;

a first primary flap connected to the back cover along the outer edge and the bottom edge thereof;

a second primary flap connected to the back cover along the outer edge and the bottom edge and positioned between the first primary flap and the back cover to form a pair of sleeves each adapted to retain a piece of sheet material; and

a secondary flap connected to the back cover along the inner edge and the top edge thereof to form a corner lock that is adapted to retain corner of sheet material retained in the sleeves.

14. The sheet retaining device of claim 13 wherein the second primary flap is larger in size than the first primary flap.

15. The sheet retaining device of claim 14 wherein the primary flaps are curvilinear in configuration.

16. The sheet retaining device of claim 13 further comprising a spine disposed between the covers and a binding mechanism disposed at the spine.

17. The sheet retaining device of claim 13 wherein the flaps are welded to the covers.

18. The sheet retaining device of claim 13 wherein the flaps include transparent material.

19. The sheet retaining device of claim 13 wherein the secondary flap is configured as a strip extending substantially between adjacent orthogonal edges of the cover.

20. The sheet retaining device of claim 13 wherein the sheet retaining device is a binder.

* * * * *